

Division of Clean Water Programs
State Revolving Fund Loan Program

WATER CONSERVATION REVIEW PROCEDURES

December 5, 1993

On January 21, 1993, the State Water Board adopted a revised "Policy for Implementing the State Revolving Fund for Construction of Wastewater Treatment Facilities" (Policy). A new requirement in the revised policy is that 75 percent of the water connections in the loan applicant's service area must be covered by an adopted water conservation program consistent with local ordinances and authorities. To satisfy this requirement the water purveyor may become a signatory to the "Memorandum of Understanding Regarding Urban Water Conservation in California (MOU)" September 1991. The MOU includes 16 Best Management Practices (BMP's) that are established and generally accepted water conservation practices.

In lieu of becoming a signatory to the MOU, an independent water conservation program that meets the specific need of the community may be adopted. This water conservation program must be consistent with local ordinances, authorities, and acceptable to the Division of Clean Water Programs (Division).

The Division discussed with the Department of Water Resources the implementation and requirements of the newly adopted water conservation requirement in the SRF Policy. The easiest and best way to implement the water conservation policy was to encourage all agencies requesting SRF funding to become signatories to this MOU.

However, in some cases signing the MOU is not feasible. Many water purveyors adopt their own water conservation plans that are specific to their individual water needs. In this situation, a conservation plan review must be performed to insure compliance with the Division's criteria.

An adequate water conservation program consists of an in depth look at five different facets of water conservation: water supply and area characteristics, current conservation program implementation, evaluation of alternative measures recommended water conservation plan, and a water shortage plan. These facets parallel the requirements of the Urban Water Management Planning Act, Water Code Section 10610 et seq.

A) WATER SUPPLY AND AREA CHARACTERISTICS

Water supply and area characteristics should include an estimate of past, current, and projected potable and reclaimed water use. Relate these estimates to demographic users (residential, industrial, irrigation, and landscape) with the estimated percentage of water consumption per user type. The current status of groundwater, surface water, reclaimed water, and purchased water with respect to over all supply, demand, and quality should also be considered. A quantified analysis of the cost per unit volume must be evaluated so that water consumption savings with respect to water conservation mechanisms versus cost savings with respect to production and distribution of potable water can be compared.

B) CURRENT WATER CONSERVATION PROGRAM

A comprehensive review of the current water conservation program with a description of the various water conservation measures must be included. This review should consist of an explanation of the BMP's used by the district, an estimated overall amount of water conserved by the BMP, and an estimated implementation cost of each BMP.

C) EVALUATION OF ALTERNATIVE MEASURES

An evaluation of alternative measures should consider no less than all BMP's specified in the MOU. An analysis of the applicability, cost effectiveness, potential water savings, public acceptance, non-quantifiable benefits, and ability to implement should be performed on each BMP. Each BMP should be analyzed individually and should contain the most optimum level of implementation with respect to different types of water users (i.e. If it is not cost effective to provide low flush toilets to all water consumers, would it be effective to replace toilets of the top 10% of residential water users ?).

If any of the BMP's are determined to not be applicable or implementable, a discussion and justification must be given so that these measures may be waived. An example of justification for waiving BMP #9 would be that commercial and industrial water users do not exist within the water purveyors distribution area.

A brief explanation of the 16 BMP's are given below. A full description of the elements of the BMP's is in the MOU.

1. Interior and exterior water audits and incentive programs for single-family residential, multi-family residential and governmental/institutional customers.

Identify the top 20% water users, contact them, and provide incentives to help reduce consumption.

2. Plumbing -- new and retrofit:

- a) Enforcement of requirement for ultra-low-flush toilets in all new construction beginning January 1, 1992**

Contact local building inspectors, developers, and plumbing suppliers to ensure installation in new construction.

b) Plumbing retrofit

Retrofit pre 1980 homes with low flow shower heads and toilet displacement devices. Offer to install these devices and follow up at least 3 times.

3. Distribution system water audits, leak detection and repair.

Once every 3 years complete a water audit of the water supplier's distribution system using a methodology such as that described in the American Water Works Association's "Manual of Water Supply Practices, Water Audits and Leak Detection". Advise customers whenever it appears possible that leaks exist on the customers' side of the meter; and perform distribution system leak detection and repair whenever the audit reveals that it would be cost-effective.

4. Metering with commodity rates for all new connection and retrofit of existing connections.

Require meters for all new connections and billing by volume of use. Establish a program for retrofitting any existing unmetered connections and billing by volume of use.

5. Large landscape water audits and incentives.

Identify larger than three acre irrigators, contacting them, offer landscape audits and provide cost-effective incentives to help achieve implementation follow up audits at least every 5 years. Provide multilingual training if necessary for implementation.

6. Landscape water conservation requirements for new and existing commercial, industrial, institutional, governmental and multi-family developments.

Follow the "Model Water Efficiency Landscape Ordinance" as the model for these requirements. Initiate an effectiveness study within 2 years of the date local agencies must adopt ordinances under the act.

7. Public information.

Adopt ongoing programs promoting water conservation and provide speakers for community groups and media. Utilize public service advertising, bill inserts, other government agencies, industry groups and public interest groups to publicize water conservation. Provide users with consumption statement, in their billing statement, showing gallons of water used per month as a comparison to the consumption in the previous year.

8. School education

Adopt ongoing programs promoting water conservation benefits (i.e. provide educational materials, teacher training, and instructional assistance).

9. Commercial and industrial water conservation.

Identify and contact the top 10% of the industrial and commercial customers directly, offering audits and incentives sufficient to achieve customer implementation of conservation measures, and provide follow up audits at least once every 5 years if necessary.

10. New commercial and industrial water use review.

Review proposed water uses for new commercial and industrial water services and recommend water efficiency measures before completion of building permit process.

11. Conservation pricing.

Implementation methods shall be at least as effective as eliminating non-conservation pricing and adopting conservation pricing.

Conservation pricing includes rates to recover costs of providing service, billing for water and sewer based on metered water use, as well as one of the following; seasonal rates, excess use surcharges to reduce peak demands, rates based upon long-run costs, or adding system capacity.

Conservation pricing does not include a decrease in price as quantity increases, fixed rates for water consumption, or billing which is determined by high fixed charges and low commodity charges.

12. Landscape water conservation for new and existing single-family homes.

Provide guidelines, information and incentives for installation of efficient landscape water saving practices. Enact and implement landscape water conservation ordinances.

13. Water waste prohibition.

Enforce prohibition on gutter flooding, sales of self regenerating water softeners, single pass cooling systems, non-recirculating car washes and laundry machines, and non-recycling water fountains.

14. Water conservation coordinator.

Designate an individual responsible for preparing the conservation plan, managing the implementation, and evaluating the results.

15. Financial incentives.

Offer incentives to implement conservation programs.

16. Ultra-low-flush toilet replacement.

Implement programs for replacement of existing high-water-using toilets. Offer rebates up to \$100 for each toilet replacement or mandate replacement at time of resale.

D) RECOMMENDED WATER CONSERVATION PLAN

The recommended water conservation plan should consist of all BMP's found to be affective after the evaluation process is done. The plan should clearly state the different facets of the BMP's and what they are intended to accomplish as well as describe actions and plans to enforce conservation measures. In addition, a projection of the total water savings should be included.

E) WATER SHORTAGE PLAN

Provide an urban water shortage contingency plan that includes the following elements that are within the authority of the urban water supplier.

1. A reasonable definition of water shortage that will mandate action of this plan.
2. Past, current, and projected water use and, to the extent records are available, a breakdown of those uses on the basis of residential, industrial, irrigation, and landscape.
3. An estimate of the minimum water supply available at the end of 12, 24, and 36 months, assuming the worst case water supply shortages.
4. Stages of action to be undertaken by the urban water supplier in response to supply shortages including up to a 50 percent reduction in water supply.

Include an outline of specific water supply conditions that are applicable to each stage.

5. Mandatory provisions to reduce water use that include prohibitions against specific wasteful practices, such as gutter flooding.
6. Consumption limits in the most restrictive stages that would reduce water use and is appropriate for its area. Examples may include but are not limited to percentage reduction in water allotments, per capita allocations, increasing block rate for high usage, and restrictions on specific uses.
7. Penalties or charges for excessive use.
8. An analysis of the impacts of the plan on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
9. A draft water shortage contingency resolution or ordinance to carry out the urban water shortage contingency plan.
10. A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency plan.

OTHER STATE LAW

The Urban Water Management Planning Act, Water Code Section 10610 et. seq, as amended by AB 892, requires every urban water supplier to prepare and adopt an urban water management plan that includes specific elements. Water districts providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually are subject to this legislation.

In addition to the requirements specified by the Division, additional Water Code conservation plan requirements include:

1. Methods to increase the use of reclaimed water in areas in which the use of potable water is not required.
2. Describe financial incentives used to encourage the use of reclaimed water and the results of these actions in terms of acre-feet per year used.
3. Describe water reclamation measures for agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse,

groundwater recharge, and other appropriate uses.

4. Identify actions and incentives to facilitate the development of dual water systems for the use of reclaimed water in new construction, for flushing toilets and urinals, landscaping, golf courses, cemeteries, irrigation, and other appropriate purposes.
5. Describe alternative conservation measures, including , but not limited to pool covers and water saving fixtures and appliances (ie.horizontal loading washing machines and water efficient dishwashers).

These conservation measures that may be imposed by Assembly Bill 892 will not be enforced by the Board with respect to State Revolving Fund Loans, however, at some time these requirements may be imposed by law.

A water conservation program that is consistent with these requirements should be adequate for many districts, however, it may not be complete for all districts. These requirements do not limit the amount of material that is required in a conservation program, but only act as guidelines for program review. Any additional criteria that a district feels is necessary should also be incorporated into the conservation plan.